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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
| 09/126,826 | 07/31/98 | YAMAZAKI | S 07977/019002 |

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MM61/0319

| EXAMINER |
|-----------|
| NGUYEN, D |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2871 | |

DATE MAILED: 03/19/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/126,826

Applicant(s)

Yamazaki et al.

Examiner

Dung Nguyen

Group Art Unit

2871



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-26 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-26 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 03/18/95, 03/21/95 and 03/22/95. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

Drawings

2. Figure 12 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 27. Correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-26 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1, 7, 15 and 22, there is no teaching in the specification and drawings what a pixel circuit is being provided on a substrate. It is assumed for the purpose of examination that a liquid crystal display (LCD) device having an active matrix circuit for switching pixels of the LCD device.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 7, 15 and 22, it is confusing and unclear what is meant by "pixel circuit". For the purpose of examination, it is assumed that an LCD device having an active matrix circuit for switching pixels of the LCD device.

8. Claims 5, 11, 20 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 5, 11, 20 and 25, it is confusing and unclear what is meant by the term "passive type". According to claims 1, 7, 15 and 22, an LCD have a plurality of TFTs forming

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on the TFT substrate (active matrix LCD). Therefore, such LCD device cannot be a passive type.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura, US Patent No. 5,572,046.

Regarding claims 1, 2, 6-8, 12 and 14, Takemura discloses an active matrix LCD device (Figure 1A-1E) having:

- An active matrix circuit on a substrate (101);
- A peripheral driver circuit region on the substrate (101);
- A thin-film transistor (TFT) (113, 109, 118, 119) formed in the peripheral driver circuit region ;
- A silicon oxide passivation film (115) which covered TFT having a contact hole (117-121) for electric connect.

Although Takemura does not explicitly disclose or show TFTs forming in the peripheral driver circuit region adhered to the substrate by a resin layer. However, in order to assure that TFTs remain in contact with the substrate of the LCD cell , those TFTs have to adhere to the

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substrate by a resin layer so that keeping the liquid crystal layer stable. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form an adhesive layer to adhere TFT over the substrate as mention above.

Regarding claims 3, 9 and 13, Takemura discloses the claimed invention as described above except for the substrate which comprises a plastic and a passivation film which comprises polyimide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form such material as the substrates and the passivation film respectively, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Regarding claims 4 and 10, Takemura discloses the claimed invention as described above except for the driver circuit which is covered/overlapped by the other one of a pair of opposed substrates. One of ordinary skill in the art would have realized the desire to form an upper substrate to cover/overlap the driver circuit for protecting. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to cover/overlap the driver circuit by the upper substrate because it is a common practice in the art to protect the driver circuit from damage.

11. Claims 22-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura, US Patent No. 5,572,046 , in view of Watanable et al., US Patent No. 4,643,526.

Regarding claims 22 and 26, Takemura discloses the claimed invention as described above except for a driver circuit which is electrically connected to a TFT of an active matrix

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circuit through a metal bump. However, Watanable et al. show in Figure 3 a gold bump (33) which are connected driver circuit (IC chip 32) to internal circuit (conductive films 22a and 22b) of an LCD device. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form an LCD device of Takemura having a metal bump as shown in Watanable et al. since the bump (33) serve to form a large space between the IC chip (32) and substrate, so that the molding material can be easily injected into the space without bubbles forming (column 3, line 42-45)

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dung Nguyen whose telephone number is (703) 305-0423. The fax phone number for this Group is (703) 308-7726.



William L. Sikes
Supervisory Patent Examiner
Group 2800